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Can Financial Education Improve Financial Literacy and Retirement Planning?

Saul Schwartz

With respect to retirement planning, rather than attempting to improve the financial literacy of Canadians, governments should seek to better protect consumers of financial products and services.

Pour favoriser une meilleure planification de la retraite, les gouvernements devraient mettre en place des mécanismes qui protègent les consommateurs en matière de finances au lieu de tenter d'améliorer la littératie financière des Canadiens.



*Faces of Aging
Les défis du vieillissement*

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Summary

The capacity of Canadians to plan for retirement is low, both in terms of their specific financial knowledge and their broader financial literacy and capability. Few are aware of the retirement savings options available to them, or even of the particulars of their own occupational pension plans. The need for financial capability, however, is more pressing than ever, for two major reasons. First, there is an ongoing shift away from defined-benefit pension plans, which provide predetermined benefits, toward defined-contribution plans, which must be managed by the individual. Second, the financial products available to those planning for retirement are becoming ever more complex.

Many governments and much of the financial industry maintain that financial education should be the primary instrument for addressing Canadians' lack of financial capability. In this study, Saul Schwartz reviews the evidence on the effectiveness of education in improving financial capability and outcomes relating to retirement, and finds mixed results at best. However, research suggests that incorporating some principles of behavioural economics into the design of retirement programs — for example, making increases in the contribution rates of defined-contribution pension plans automatic — would have a far greater impact on individuals' retirement income prospects. This would counter people's decision-making biases, such as favouring the status quo when better alternatives are available and the inability to commit to saving.

What should governments' role be in addressing Canadians' lack of financial capability? The author says that rather than devising a national strategy to promote financial capability, governments should emphasize protecting consumers with respect to financial matters. In order to help Canadians deal more efficiently with financial issues in general, and with retirement planning in particular, he recommends that governments

- create an agency to better regulate the financial industry and protect consumers against risky products and services that are difficult to understand;
- ensure the provision of expert, impartial third-party advice about retirement planning; and
- redesign private pension plans using mechanisms that have been shown to improve financial outcomes such as automatic contribution-rate escalation.

In Schwartz's view, financial education should be a complement of but not a substitute for these initiatives: the most effective policy approach is to decrease the need for, rather than attempt to improve, Canadians' financial capability. He adds, citing a phrase often used by hockey commentator Pierre McGuire, that relying on financial education to help ensure Canadians have adequate retirement income is "just not good enough!"

Résumé

La capacité des Canadiens de planifier leur retraite est faible, à la fois en termes de connaissances financières définies étroitement et, au sens large, de littératie financière ou de compétences financières. Ils sont peu nombreux à connaître les options qui leur sont offertes en matière d'épargne-retraite ou même les dispositions particulières de leur propre régime de retraite professionnel. Les compétences financières sont cependant plus nécessaires que jamais, principalement pour deux raisons. Tout d'abord, les régimes de retraite à prestations déterminées, qui garantissent aux retraités des prestations fixes, sont graduellement supplantés par les régimes de retraite à cotisations déterminées, que leurs cotisants doivent gérer eux-mêmes. De plus, les produits financiers offerts aux personnes qui planifient leur retraite deviennent toujours plus complexes.

De nombreux gouvernements et une grande partie de l'industrie des services financiers soutiennent que l'éducation financière devrait être le principal instrument pour pallier les lacunes des compétences financières des Canadiens. Dans la présente étude, Saul Schwartz montre que les recherches sur l'efficacité de l'éducation financière aboutissent à des conclusions incertaines, la formation n'améliorant que peu ou pas du tout les compétences financières et les résultats financiers des Canadiens en matière de retraite. En revanche, les données permettent de conclure que l'intégration aux régimes de retraite de certains principes d'économie comportementale — par exemple en rendant automatique la hausse des taux de contribution aux régimes à cotisations déterminées — améliorerait considérablement les perspectives de revenu de retraite des cotisants. Ce type de mesures contrerait les penchants naturels des individus dans leurs prises de décision comme la préférence pour le statu quo au détriment de meilleures solutions, ou le manque de motivation pour économiser.

Quel devrait être le rôle des gouvernements face au manque de compétences financières des Canadiens ? D'après l'auteur, au lieu de concevoir une stratégie nationale axée sur les compétences financières, les gouvernements devraient privilégier la protection des consommateurs en matière financière. Afin d'aider les Canadiens à mieux gérer leurs finances en général et la planification de leur retraite en particulier, il recommande que les gouvernements :

- ▶ mettent en place une agence afin de mieux réglementer le secteur des services financiers et de protéger les consommateurs contre les produits risqués et difficiles à comprendre ;
- ▶ assurent aux Canadiens l'accès à des services-conseils d'experts indépendants et impartiaux en matière de planification de la retraite ;
- ▶ modifient les régimes de retraite privés à l'aide de mécanismes qui, comme la hausse automatique des taux de contribution, ont fait leurs preuves et ont permis d'améliorer les résultats financiers.

Selon l'auteur, l'éducation financière devrait compléter, et non remplacer, ces initiatives. En effet, l'approche la plus efficace consiste à réduire le besoin de faire appel aux compétences financières des Canadiens plutôt qu'à tenter d'améliorer ces compétences. Se référant à une phrase fréquemment utilisée par le célèbre analyste de hockey Pierre McGuire, il note que de mettre l'accent sur l'éducation financière pour aider les Canadiens à s'assurer un revenu de retraite adéquat est tout simplement insuffisant.

Can Financial Education Improve Financial Literacy and Retirement Planning?

Saul Schwartz

Captivated by an alluring vision of playful grandchildren, quiet walks in the country and visits to sunlit foreign capitals, many Canadians look forward to spending a good deal of their lives in retirement. Even more prosaic retirement scenarios, however, require careful and successful financial planning, planning that most future retirees seem ill equipped to undertake. By all accounts, the financial capability of those planning for retirement is extremely low.¹ Few are aware of the retirement savings options available to them or the characteristics of their own pension plans.

Yet the need for retirement planning is perhaps greater now than it has ever been. Canadians are living longer than ever before. Commenting on 2005 Statistics Canada data on life expectancy, the CBC reported that, "on average, a 65-year-old man could expect to live another 18.1 years... an increase of two years from the previous decade. A 65-year-old woman could expect to live an additional 21.3 years, up by 1.3 years" ("Life Expectancy" 2010; Statistics Canada 2010). The number of years that people spend in retirement is also affected by the age at which they retire. The average age at retirement fell during the last decades of the twentieth century, but this trend is unlikely to continue. Already, several countries have introduced plans to increase pension eligibility ages (Hering and Klassen 2010).

Moreover, the need for financial capability among Canadians who are planning for retirement is more pressing now than before. The transition from defined-benefit to defined-contribution pension plans — with the former promising a fixed benefit at retirement and the latter promising contributions to a fund that must be managed by the individual — is ongoing in Canada, although at a slower pace than in the United States. Nonetheless, many more Canadians bear responsibility for investment decisions that will determine their well-being in retirement.

The complexity of the financial products and services on offer to those planning for retirement has never been greater. While the multiplicity of options offers the possibility of designing better retirement plans, it also offers more ways for plans to go awry.

If the need for retirement planning is high, should government intervene to improve Canadians' financial capability? Consider three rationales for such intervention.

- Enhancing consumer protection: If Canadians lack the ability to make careful and considered decisions about financial products and services, they leave themselves open to exploitation by unscrupulous providers. Improving financial capability would lower the likelihood of such exploitation.
- Improving the efficiency of financial markets: Efficient markets require that both demanders and suppliers have complete information. Efforts to improve the financial capability of the

demanders of financial products and services therefore enhance the efficiency of financial markets. As a World Bank study notes, "Consumers who are empowered with information and basic rights — and who are aware of their responsibilities — provide an important source of market discipline to the financial sector, encouraging financial institutions to compete by offering better products and services rather than by taking advantage of poorly informed consumers" (Rutledge 2010, 9).

- Reducing future government spending: Canadian governments seem committed to providing at least a minimally adequate retirement income to all Canadians. Better private decisions about retirement planning can lead to higher private retirement income for some individuals, and therefore a lower need for government pension spending on means-tested retirement programs.

The lack of financial capability almost certainly has a negative impact on retirement planning. Assuming that the lack of capability is the problem, the question is what to do about it. In this study, I ask whether the available evidence suggests that retirement planning can be greatly improved by financial education or whether the consequences of poor retirement planning are better addressed by other policies, including improved regulation, better advice and better-designed pension plans.

One way to provide widespread financial education is to introduce mandatory high school or post-secondary courses that would teach all students the basic elements of financial planning. Employers could be required to offer regular financial workshops that would keep their employees up to date about savings and investment products and offer advice on alternative methods of adapting to changing economic circumstances.

An alternative, however, is to assume that many individuals will be unable to carry out retirement planning in a satisfactory way, and therefore to design programs that induce greater savings and wiser investment without requiring extensive individual choice. An example of such design is the automatic enrolment of workers in employer pension plans and the automatic allocation of pension contributions to a reasonable investment portfolio, with workers able to opt out of these "default" options if they choose.

The efficacy of financial education as a solution to the problem of weak financial capability depends on two propositions: first, that financial education will lead to greater understanding of financial matters and enhanced financial skills; and, second, that those with more knowledge and greater skills will be able to use them to improve their financial decision-making. While the logic of these two propositions seems unassailable, the available evidence leaves both unproven. At best, financial education might be said to have positive, but quite modest, effects on economic outcomes such as savings or pension participation.

In principle, financial education falls squarely in the ambit of traditional economic models of human decision-making. In those models, rational agents, armed with stable and well-defined

preferences, maximize expected well-being over their lifetimes. These agents carry out their plans, adjusting along the way to changes in their circumstances. If retirement planning is thought to be inadequate, it must be that the economic agents lack either information or skills; financial education is the way to improve both.

Those who advocate better program design as a solution to the problem of inadequate retirement savings or poor investment choices, however, start with a different model of human decision-making. Over time, psychologists have developed strong evidence that actual human decision-making is affected systematically by psychological biases that lead to decisions that a rational economic agent would never make. For example, people regularly favour the status quo even when available alternatives are superior, systematically overestimate the likelihood that their plans will succeed and often avoid choices they might later regret even if those choices would be thought rational.

The debate between those who blame poor retirement planning on “nature” (deep-seated decision-making biases) and those who place the blame on “nurture” (the lack of financial education) extends well beyond this one policy area. The rise of “behavioural economics” in the past two or three decades has challenged the pre-eminence of neoclassical economics, which assumes rational decision-making by well-informed and self-controlled individuals. In any number of areas, behavioural economists have tried to incorporate descriptively more accurate psychological assumptions into the formal models used to explore resource allocation choices (Rabin 1998; DellaVigna 2009). Because most of the above-mentioned biases are especially relevant when the choices under consideration are financial in nature and concern plans that extend over a long time, such decisions have attracted the attention of some of the best behavioural economists.

I begin with an overview of the three pillars of the Canadian retirement income system. I then review some of the strongest evidence concerning the efficacy of financial education; that evidence leads to the tentative conclusion that financial education has, at best, modest positive effects on savings and financial planning. Then I set out the case for better program design by reviewing the behavioural economic literature on saving; the primary finding is that simple changes in program design can lead to large changes in retirement planning outcomes. I conclude with policy recommendations and a discussion.

Canada's Retirement Income System

Two recent reports on Canada's retirement income system (Baldwin 2009; Mintz, 2009) portray a set of government and private pension programs that currently meet two goals: keeping most retired people out of poverty, and allowing most retired people to maintain their preretirement living standards. The two reports provide excellent summaries of the “three pillars” of Canada's pension system.

Pillar 1 consists of benefits, based only on age and length of residence in Canada, from Old Age Security (OAS) and the income-tested Guaranteed Income Supplement (GIS), both funded from federal general revenues. Together, OAS and GIS provide benefits that constitute a minimum income for Canadians over age 65. Baldwin (2009, 12) notes that, in 2007, the combination of

OAS and GIS gave retired couples \$21,825 and single individuals \$13,500. These amounts alone bring post-retirement income close to the Low Income Measure (LIM) that is sometimes used as a poverty line in Canada (see Giles 2004).

Pillar 2 consists of benefits, based on preretirement earnings, from the Canada Pension Plan (CPP) or the Quebec Pension Plan (QPP), which are contributory programs funded through payroll taxes paid by employers and employees. Benefits from CPP and QPP provide additional income that partially replaces preretirement earnings for those who had such earnings; the amount of additional income provided is 25 percent of preretirement earnings up to a threshold that is roughly equal to average economy-wide wages and salaries over a five-year period; this threshold is \$44,840 in 2010.² The combination of OAS, GIS and the maximum CPP/QPP benefit replaces 73 percent of the preretirement earnings of those whose earnings were half the average and 42 percent of the preretirement earnings of those who had average earnings. For the purposes of this study, it is notable that these government programs provide benefits that do not depend on any financial decision-making by beneficiaries.

Pillar 3 consists of income from employment pension plans or individual retirement savings accounts, which are financed by employer and worker contributions plus government subsidies in the form of tax deferrals.³ This pillar is quite diverse, and includes both defined-benefit and defined-contribution employer pensions and tax-assisted individual savings plans — Registered Retirement Saving Plans (RRSPs) and, to a lesser extent, Tax Free Savings Accounts (TFSAs). For those with preretirement earnings that are higher than the average, retirement income from employer pensions or RRSPs is crucial to maintaining preretirement standards of living.

It is typical to define adequate retirement income by using a percentage of preretirement income.⁴ While the appropriate percentage is subject to debate, Mintz (2009) suggests that retirement income above 60 percent of preretirement, pretax income should be considered adequate. LaRochelle-Côté, Myles, and Picot show that most retirees whose pre-retirement income was low have adequate postretirement income (2008, 16), with OAS/GIS and CPP/QPP providing enough to keep their postretirement income at or above their preretirement income without the beneficiaries having to make any complicated financial decisions about their benefits. Those whose postretirement income replacement rate falls below 60 percent are largely middle- and upper-income individuals, implying that the concern of policy-makers about financial capability should focus on these categories of retirees, particularly those whose retirement income depends in part on third pillar pension programs in which retirement income is a function of individual choices.

Does Financial Education Change Financial Outcomes?

The simple “logic model” underlying the idea that financial education leads to improved financial planning (including retirement planning) can be translated into two questions. First, does financial education lead to improved financial capability? Second, do those with greater financial capability make better financial decisions? This section reviews the most important research findings concerning these two questions. To begin, however, it is important

simply for the sake of clarity to define some of the central terms that appear regularly in this study, and to discuss some of the daunting empirical challenges that researchers have faced.

Definitions of key concepts

Financial knowledge, financial literacy and financial capability

One definition of financial literacy, articulated by Lewis Mandell, is that "[it] is what people must know in order to make important financial decisions in their own best interest" (2006, 2). This definition is narrow in the sense that it focuses only on *financial knowledge*. A broader definition of financial literacy is that it involves objective knowledge of financial concepts that affect personal well-being, and subjective confidence in the ability to make financial decisions (SEDI 2004). *Financial capability* is an even more expansive concept that commonly includes financial skills in addition to attitudes and knowledge.⁵ I consider *financial capability* to be the desired result of financial education. In the remainder of the study, I use the term *financial capability* when the context demands the more inclusive term, and *financial knowledge* and *financial literacy* only when those narrower concepts are more relevant or are part of the formal name of an organization or project.

Financial education

The Organisation for Economic Co-operation and Development (OECD) defines financial education as "[t]he process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction, and/or objective advice, develop the skills and confidence to become more aware of (financial) risks and opportunities to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being and protection" (OECD 2005). Note that the objective is to develop "skills and confidence," which are the determinants of financial capability and literacy, respectively. Note also that financial education can be provided outside the classroom as "information" or "informed advice."

Financial outcomes

In the context of retirement planning, the main outcomes of interest concern pension participation, pension contributions, personal savings and, more generally, the results of decisions relevant to retirement planning. Nonetheless, because financial capability involves a much wider range of decisions, other outcomes are also discussed.

The methodological challenges of linking financial education and financial outcomes

Studies of the link between financial education and financial outcomes typically use cross-sectional data, collected at a single point in time. Inferring causation, however, is extremely difficult in a cross-sectional context. For example, if it is observed that those with greater-than-average savings have greater-than-average financial education, did their greater education lead to their greater savings or did the existence of greater savings lead them to become better educated? Most of the authors I review here are well aware of this challenge, and use established statistical techniques to try to overcome it.⁶ That said, the ability of these techniques to establish causality varies from study to study and, in the end, their use does not allow strong conclusions to be drawn.

A second challenge is known as “self-selection bias”: individuals who volunteer to take courses on financial matters or attend retirement planning workshops are likely to be systematically different from those who do not. For example, they might be more interested in financial issues or more motivated to change their behaviour. If so, it is difficult to determine how much of any later change in outcomes is due to the course or workshop and how much is due to the interest and motivation of the volunteer. The positive effect of financial education, if any, on self-selected volunteers is likely to overstate its impact on the general population.

To understand the practical importance of the self-selection issue, consider a study by Meier and Sprenger, who measured the “impatience” of 870 people who came to a free tax preparation service in Boston and then offered them a short, free credit counselling session;⁷ about 55 percent took up the offer of the free counselling session, and “more patient individuals [we]re more likely to opt into the program” (2007, 3). If “patient” individuals are more likely to enrol in financial education programs, then the effect of financial education is likely to be overestimated; in effect, financial education programs are preaching to the converted. Because few studies control for such self-selection, Meier and Sprenger conclude: “we believe that there is very limited knowledge as to whether financial information interventions have a positive effect” (3).

It is perhaps worth describing an ideal data set for studying how financial education might affect retirement planning. Suppose a large group of 20-year-olds was randomly divided into two groups. One group — the “treatment” group — could be offered a state-of-the-art financial education program, designed to inform them of how best to plan for their eventual retirement. The other group — the “control” group — would not be allowed to be part of the financial education program but would simply be followed over time. At the point of random assignment and several times thereafter, both groups would be tested to ascertain their financial capability. Then, using surveys and administrative data, both groups would be followed through their working lives and through their retirement years until their eventual demise. By comparing the financial situations of the two groups, the efficacy of the financial education program could be assessed.

The randomized trial just sketched would address many of the challenges that face researchers using cross-sectional data. First, randomization would eliminate the self-selection problem. One way to think about such self-selection is that the volunteers have unobserved characteristics — motivation or interest — that lead them to differ from the general population. The effect of random assignment is to make the treatment and control groups statistically similar in their observed *and unobserved* characteristics. For example, the two groups, on average, would be equally motivated and equally interested. To be sure, only a subset of the treatment group would take up the offer of financial education, but the eventual comparison of outcomes would be between the entire treatment group (including those who turned down the offer of financial education) and the entire control group.⁸

Second, the randomized trial would address the causation issue that bedevils cross-sectional research. Because the two groups would differ only in that one received financial education, any later differences in financial outcomes could be reliably attributed to the financial

education program. In essence, the experience of the control group would mimic what the experience of the treatment group would have been in the absence of the education program.

Another issue that affects some studies is that the evaluation follows program participants for only a short time after the program ends. If the positive effects of the program fade with time, the success of the program in changing long-run behaviour will be misjudged. This is especially important in the context of retirement planning: programs that change the savings behaviour of young people might not lead to higher retirement income if the changes are short-lived. Because the idealized randomized trial would follow participants throughout their lives, any long-run effects could be observed.

Not surprisingly, the data that are actually available to empirical researchers in this area fall well short of those a carefully designed and implemented randomized trial might generate. The best of these researchers, however, acknowledge the challenges and take steps to minimize the problems they create. It is to these studies that I now turn.

The link between financial education and financial outcomes

The literature on the link between financial education and financial outcomes can be divided into three strands: (1) studies of the effect of financial education on financial knowledge;⁸ (2) studies of the effect of financial knowledge (however it might have been achieved) on financial outcomes; and (3) studies of the effect of financial education on financial outcomes (without looking at whether the education affected financial knowledge or capability). Each strand is reviewed in sequence below.

Does financial education improve financial knowledge?

Surprisingly, financial education programs have not been shown to increase financial knowledge. In this section, I briefly discuss the best-known studies of the impact of financial education in US high schools on financial knowledge.

It is commonplace to make the point that retirement planning must begin early in life. After students leave secondary school, however, it becomes exceedingly difficult to deliver any form of intensive education. Those who go on to post-secondary education would have to add extra noncredit coursework to their program of study; those who are out of school would have to be drawn away from other pursuits to take an after-hours course. It is therefore natural to recommend that financial capability be taught in elementary and secondary schools. For example, the OECD advises that “[f]inancial education should start at school, for people to be educated as early as possible” (2006, 3). The challenge is that financial decisions such as saving for retirement or buying a house have little relevance for elementary and secondary school students. This lack of salience means that even if students can be taught about financial matters, they are unlikely to retain the information into their adult years.

One key author here is Mandell (2006, 2009), who has been closely involved with the Jump\$tart Survey of Financial Literacy. Every two years, this survey asks several thousand US

high school students several dozen questions aimed at assessing their financial knowledge. The survey also collects information on whether respondents have taken a high school course dealing with money management or personal finance.¹⁰ One consistent and unsurprising finding is that levels of financial knowledge are quite low: only between 50 and 60 percent of questions are answered correctly, and the percentage has been declining over time. A second and more surprising finding is that respondents who report having taken a high school class on money management or personal finance do not do better than those who took no such course. As Mandell writes, "We do not doubt that the vast majority of students who take such a course attend classes, read the textbook and cram successfully for the final. Nor do we doubt that the teachers are dedicated and educated. We just find no connection between education and financial literacy, measured, in most cases, within a year after taking such a course" (2006, 5). This is a discouraging finding for those who advocate for early financial education since it suggests that financial knowledge slips away almost immediately after the course ends.

Does financial knowledge affect financial outcomes?

The general level of financial knowledge of the average citizen in Western democracies is undoubtedly quite low. Lusardi and Mitchell, reviewing the evidence from a number of US surveys, find that, "in practice, there is widespread financial illiteracy; many households are unfamiliar with even the most basic economic concepts needed to make sensible saving and investment decisions" (2007b, 36). Outside the United States, according to the authors, the picture is much the same.

A number of studies link financial knowledge, however it might have been obtained, and financial practices. A good example is Hilgert, Hogarth, and Beverly (2003), who relate survey information about a variety of financial *practices* (such as balancing chequebooks or household budgeting) to information about financial *knowledge* (as measured by a series of 28 survey questions).

For example, the survey asked five yes or no questions about five savings practices: having a savings account, having an emergency fund, saving or investing money out of each paycheck, saving for long-term goals and having certificates of deposit. Based on how many positive answers the respondent gave to the five questions, Hilgert, Hogarth, and Beverly construct a "savings index" for each survey respondent. They then measure financial knowledge concerning savings by the respondent's score on the five savings-related questions included in the 28 knowledge questions. The same procedure was followed for other financial practices. In each case, the score on the financial practices index was positively correlated with the score on the relevant part of the test. With regard to savings, the authors report that "[h]ouseholds with low scores on the savings index had lower overall financial knowledge scores and lower scores on the savings subsection of the quiz...Those with low index scores had an average savings knowledge score of 67 percent, compared with 77 percent for those in the medium group and 86 percent for those in the high group" (Hilgert, Hogarth, and Beverly 2003, 317).

Hilgert, Hogarth, and Beverly do not claim that the respondents' financial knowledge was the result of any sort of financial education. Indeed, when asked about the most important ways

in which they had learned about personal finances, respondents most often cited personal experience, family and friends, with fewer than 10 percent reporting they had learned from a "high school or college course." The authors are also careful not to claim a causal relationship between financial knowledge and financial practices: "people may gain knowledge as they save and accumulate wealth, or there may be a third variable...that affects both knowledge and behaviour" (2003, 311).

The level of financial knowledge related to the specifics of retirement planning is also quite low. Lusardi and Mitchell (2007b) note that, in the United States, even Health and Retirement Survey (HRS) respondents, all of whom were close to retirement age, "know little about [US] Social Security and pensions, two of the most important components of retirement wealth" (40).

While there are many reasons why greater financial knowledge might lead to better financial outcomes, one path might be that those who are financially knowledgeable have a "propensity to plan" — a link that Lusardi and Mitchell (2007a) find. They measure "financial knowledge" using answers to three simple questions included in the 2004 HRS.¹¹ The HRS also contains a question about planning: respondents were asked, "How much have you thought about retirement"; they could answer "a lot," "some," "a little" or "hardly at all." Those who scored high on the financial knowledge questions were far more likely to have said they had thought about retirement a lot, some, or a little.

Establishing a *causal* link between a propensity to plan and financial outcomes, however, is a difficult task. Lusardi and Mitchell (2007a) argue that they can establish such a link using methods similar to those used by Ameriks, Caplin, and Leahy (2003). The latter begin with a simple observation: "Households with similar economic and demographic characteristics accumulate radically different amounts of wealth" (1007). They hypothesize that a "propensity to plan" allows some people to save far more than others. Faced with the question of whether having a "propensity to plan" leads to the accumulation of wealth or vice versa, Ameriks, Caplin, and Leahy employ a standard statistical procedure. One prerequisite of this procedure is the presence of some independent variables that affect one dependent variable (here, the propensity to plan) but not the other (here, wealth). Measuring such a "propensity to plan" is clearly difficult, but Ameriks, Caplin, and Leahy were among the designers of a survey of workers in the US education sector and were able to include questions they believed would serve as good proxies for the unobserved propensity to plan.¹² They find evidence that those who have a propensity to plan accumulate far more wealth than those who do not and, importantly, that it is unlikely that having more wealth leads to a propensity to plan.

From the establishment of a link between the propensity to plan and wealth accumulation follows the next question: can financial knowledge lead to an increased propensity to plan? In addressing this question, Lusardi and Mitchell (2007a) report the psychological findings of Gollwitzer (1996, 1999) to the effect that even a fairly minor intervention — asking experimental subjects to write down a plan for some action — can lead to real change in behaviour. The implication is that subjects' propensity to plan can be fairly easily changed.

Does financial education affect financial outcomes?

Most evaluations of financial education programs focus on their impact on financial outcomes such as personal savings, pension enrolment or credit card usage, and do not address whether they changed the financial capability, or knowledge, of the participants. In this section, I begin by reviewing two important studies that show positive impacts of financial education in high school on later financial outcomes. I then review several studies of the effects of financial education in the workplace.

High school financial education

The consistent finding, reported above, that financial education does not improve financial knowledge seems to conflict with Bernheim, Garrett, and Maki (2001), the study most often cited in support of the positive effect of financial education on financial outcomes. Bernheim, Garrett, and Maki find that adults who had graduated from high school at a time when their state required some form of high school financial education had higher savings rates and higher net worth. They do not attribute these outcomes to greater financial knowledge, however; instead, they "conjecture that the link [of high school courses] to behavior arises...from increased comfort with financial transactions and concepts" (450).

They analyze a telephone survey of about 2,000 individuals who ranged in age from 30 to 49 when the survey was conducted in 1995 and who had graduated from high school between 1964 and 1983, the period during which most US states began to require some form of financial education in high school. The survey asked respondents about their current savings rates, assets and liabilities, pension coverage and other economic variables. Participation in financial education was measured in the survey by: (1) asking respondents about any financial education courses that they might have taken while in high school; and (2) asking in which state the respondents had gone to high school. The authors estimate that about 10 percent of their sample was affected by state mandates.

Crucially, in their statistical analysis, Bernheim, Garrett, and Maki rely primarily on the information concerning the state in which respondents had graduated from high school rather than on respondents' self-reports about the courses they had taken. From the information about where and when respondents went to high school, the authors develop two measures of respondents' exposure to financial education. The first — "exposed to mandate" — is whether or not the respondent's graduating class was subject to a state mandate. The second — "years since mandate" — measures how long the mandate had been in effect by the time the respondent graduated. The rationale for this second variable is that states often took some time after the imposition of a mandate to organize and implement the required courses.

The information about where and when respondents went to high school serves two purposes for Bernheim, Garrett, and Maki. First, it minimizes the self-selection problem emphasized above because respondents probably did not choose to go to any particular high school because of the mandate. Second, the information about state mandates functions as a proxy for the actual course-taking behaviour of respondents. The validity of the authors' method depends,

however, on whether there were any systematic differences in state-level savings rates between “mandate” and “non-mandate” states *before* the mandates were actually implemented.

The main finding of Bernheim, Garrett, and Maki is that respondents who were subject to state mandates had higher savings rates than those who were not. For example, those who graduated from high school five years after the mandate had come into force in their state had saving rates 1.5 percentage points higher than those who were not subject to any mandate. The link between mandated financial education and later savings rates persists even after a variety of statistical checks for the robustness of the results.

The Bernheim, Garrett, and Maki study stands apart from most other work because of its careful consideration of the challenges posed by the statistical estimation of the effects of state mandates. However, the cross-sectional nature of the data (one-time telephone interviews) poses the problem of establishing a causal relationship between state mandates and increased savings. Moreover, the limited size of the sample (about 2,000 individuals) prevented the authors from thoroughly checking the specification of their causal model.

Indeed, Cole and Shastry (2009, 15-21) challenge the results of Bernheim, Garrett, and Maki. They use US census data to estimate similar models, using investment income as the variable of interest in place of savings rates and net wealth. They begin by replicating the work of the earlier study and obtain similar results: better financial outcomes (greater investment income) for those who graduated in states with mandated financial education. Then, exploiting the large number of respondents available in the census, Cole and Shastry explore a number of model variants that were unavailable to Bernheim, Garrett, and Maki because of their smaller sample. The greater number of observations allows Cole and Shastry to assess more carefully the timing of the state-specific mandates, and contrary to Bernheim, Garrett and Maki, they find that financial education mandates had no impact on later financial outcomes. Their explanation is that, in the states that adopted the mandates, financial outcomes were consistently better *before* the mandates were adopted, and did not improve after the mandates were imposed.

A second study that finds a positive relationship between financial education and later financial outcomes is Mandell (2009). He analyzes the 2008 US Jump\$tart survey of post-secondary students and finds that some features of their current financial behaviour — balancing cheque-books, paying credit card bills in a timely fashion — were better among those who had taken a personal finance course in high school. He suggests that his 2009 results and his previous finding that students retain little of what they learn in high school personal finance courses can be reconciled if the effect of taking a personal finance course is not on knowledge but on attitudes.

A different branch of the literature on how financial education affects financial behaviour and outcomes arises from programs that aim to help low-income individuals and families save. The idea, often associated with Sherraden (1991), is that, if poor people can accumulate assets — savings accounts, housing equity, human capital in the form of education — they will be more likely to escape poverty. To facilitate such savings, a number of matched savings

programs called individual development accounts (IDAs) have been implemented. In Canada, one such program, called Learn\$ave, was put in place (see Leckie et al. 2010) and, importantly, evaluated using the random assignment methods described above.

Learn\$ave, like other IDA programs, offered participants the opportunity to save for a particular purpose. Every dollar that participants deposited into their Learn\$ave account was matched, up to a predetermined threshold, by a \$2 contribution from Human Resources and Skills Development Canada. The accumulated funds, however, could be used only to pay for adult education.¹³ Moreover, some participants were required to attend mandatory financial education classes. Over the course of several years, Learn\$ave recruited several thousand volunteers to participate in the experiment, and randomly divided them into three groups: (1) a control group that received no services; (2) a treatment group that was offered the matched savings program and required to attend financial training sessions; and (3) a second treatment group that was offered the matched savings program but not allowed to attend financial training classes. The Learn\$ave results, as they pertain to the impact of financial education are easy to summarize: the amount saved by the group that received financial education was essentially the same as the amount saved by those who received no such education¹⁴ — that is, the effect of financial education was negligible.

Workplace financial education

Many large employers offer educational programs to their employees. Of particular interest here are workshops and seminars that deal with retirement planning. For employers who offer defined-contribution pension plans, such workshops and seminars often take up issues related to individual choices concerning plan participation, contribution rates and asset allocation.¹⁵ In this section, I review some of the literature that has developed around attempts to measure the effectiveness of such educational programs.

One might think that the efficacy of workplace financial education would be greater than that of high school financial education. The high school course would deal with many more issues and most students would not be deeply interested in the topic. In the workplace, the topics would be fewer in number and relevant to all, though retirement might not be foremost in the minds of younger employees.

Lusardi and Mitchell (2007b), reviewing the literature on this topic, begin by pointing out the difficulties in assessing the effect of workplace education on financial behaviour and outcomes. The first is the same self-selection problem discussed above: those who volunteer for workplace seminars are likely to be more interested and more motivated than the average employee. The second and related difficulty is that employers might be offering the workshops in response to a perception that some employees are saving far too little — that is, the workshops serve a remedial function. If so, those who attend might have lower postworkshop savings than those who do not (even if their savings increase as a result of the workshop).

The self-selection problem is difficult to avoid in the absence of random assignment or mandatory participation. By exploiting large surveys, however, researchers can assess whether

workplace education seems to have different effects for different groups of people. For example, Lusardi (2004) uses the 2004 US Health and Retirement Survey to show that participation in retirement seminars increases retirement savings. The HRS looks at a representative sample of over 5,000 Americans who were between 50 and 61 years of age when they were interviewed, and collects information about three aspects of retirement planning: (1) the extent to which respondents thought about retirement; (2) whether respondents had attended a retirement seminar; and (3) whether they had asked the US Social Security Administration to calculate their social security benefits. About 13 percent of Lusardi's sample had attended a retirement seminar at some point prior to being interviewed (2004, 35). When Lusardi assesses the impact on various measures of wealth of the variable indicating whether or not the respondent had attended a retirement seminar, she finds that attending a seminar positively affects "financial net worth" and that the relationship is especially strong for those with lower levels of financial net worth.¹⁶

As Lusardi notes, even though the percentage increases in wealth associated with attending a retirement seminar seem large — increases of more than 75 percent in financial net worth and more than 20 percent in broader measures of wealth among those in the lowest quartile of wealth — the dollar values of the increases are relatively small (about \$2,000) (14-15). Moreover, the problem of self-selection bias remains. That said, Lusardi finds little evidence of self-selection (34), and argues that her estimates may understate the effects of seminars because the impact on those who attended just before the survey was conducted would not yet have had time to be observed.

Several other studies find similar effects of workplace education on measures of wealth. The study by Bernheim and Garrett (2003) is notable because, like Lusardi and Mitchell (2007a), the authors take steps to mitigate the problems posed by self-selection. They analyze a special survey of individuals between the ages of 30 and 48 who were asked for detailed information about their wealth, including wealth held in 401(k) pension plans,¹⁷ wealth accumulated for the purpose of retirement, and total wealth. The information about workplace retirement education consisted of two questions, one asking whether the respondent's employer offered retirement planning workshops and the other asking if the respondent had attended the workshops.

As in their earlier study (Bernheim, Garrett, and Maki 2001), Bernheim and Garrett (2003) deal with self-selection by focusing not on the relationship between *attending* a retirement workshop and wealth accumulation but on the relationship between being *offered* a retirement workshop and wealth accumulation. This procedure presumably understates the effect of actually *attending* a retirement seminar but goes a long way toward avoiding self-selection bias.¹⁸

Several findings emerge from the analysis of Bernheim and Garrett. One is that self-reported savings are higher by 1 percentage point (from a base of 5 percent) when employers offer retirement planning workshops. In addition, wealth accumulated in 401(k) plans and wealth reported as being for the purpose of retirement also increases when workplace education is offered; total wealth, however, does not seem to be a function of the presence of workplace

education. Moreover, Bernheim and Garrett argue that their results are biased *against* finding that workplace education has a positive effect on savings and wealth, because employers who put workshops in place as a remedial measure appear to have employees who are especially disinclined to save. This is consistent with Lusardi and Mitchell's finding (2007b).

The findings of Bernheim and Garrett (2003) must be taken seriously because of the care they take to consider possible biases that might lead them to conclude that there is a positive relationship between workplace education and savings rates and wealth accumulation if, in fact, none exists.

Duflo and Saez (2003) employ a randomized design to evaluate the effect of attendance at an employee benefits fair at a large university on participation in a tax-deferred retirement savings program. One randomly selected group of employees was offered \$20 to attend the fair, while another group was offered no such incentive. The authors, who are interested in "peer effects" on savings behaviour, measure the effect of attending the benefits fair on employees who worked in the same unit as those who were offered the \$20 incentive. They find that the incentive led to much greater attendance among the incentivized group (both those who were offered the \$20 and those who worked in the same unit of the university), but that the change in their actual economic behaviour was relatively small. For the purposes of assessing the effect of such workshops on retirement planning, the key insights from Duflo and Saez are, first, that the effects they measure are small relative to those of changing default options (as described below); and, second, the fact that a \$20 reward can induce any change in retirement planning suggests that many individuals might not rely on complicated models in making their retirement decisions.

Summary

Perhaps the safest conclusion to draw from this literature survey is that financial education might have some positive effects on financial outcomes, but they are modest at best. Moreover, the nature and size of the effects are controversial. For example, the widely cited finding by Bernheim, Garrett, and Maki (2001) that US laws requiring financial education in high schools led to greater savings and net wealth in middle age has been challenged by Cole and Shastry (2009), who use a different and perhaps better data set to argue that no such link exists. A related finding is that by Lusardi (2008), who concludes that the evidence on the effect of workplace financial education is "mixed," with some studies (including her own 2004 study) finding positive effects and others finding none.

Do Decision-Making Biases Trump Financial Capability?

Economic theory has been strongly influenced in recent years by "behavioural economics" (see, for example, Rabin 1998; DellaVigna 2009). In essence, behavioural economics tries to incorporate into economic theory the accumulating evidence that deep-seated decision-making biases lead human decision-makers to act in ways that *homo economicus* — rational, self-controlled, patient — never would. Financial decisions that have implications extending over a relatively long period are thought to be especially prone to such biases and therefore

have been a focus of behavioural research. As a result, the study of retirement planning has assumed a significance that extends far beyond its importance as a social issue.

Benartzi and Thaler point out that the standard economic model of retirement planning has "three embedded rationality assumptions, one explicit and two implicit" (2007, 81). The model explicitly assumes that individuals try to maximize their expected lifetime well-being, but it also implicitly assumes they are able to solve this exceedingly complex problem and have the willpower necessary to carry out the resulting plan.

In rejecting that model, behavioural economists conclude that decision-making biases have a far more powerful influence on retirement planning than has financial capability. The implication is that policy should be oriented to designing better programs to improve retirement planning without relying exclusively on rational and well-informed choices by individuals. Another conclusion is that trying to foster financial capability will be not only expensive and difficult but also relatively ineffective.

The extensive set of behavioural biases whose existence casts doubt on the efficacy of financial education in general is reviewed by De Meza, Irlenbusch, and Reyniers (2008). Here, however, I focus on the most important point behavioural economists make in the context of retirement planning: the importance of default options in the design of pension plans.

The importance of default options

One of the most compelling papers on default options is that of Madrian and Shea (2001). They show that a simple change in the design of a large employer's defined-contribution pension plan led to an extremely large increase in plan participation. Moreover, the increase was especially apparent among those least likely to have enrolled in the plan historically. The change in design greatly reduced the disparities in participation rates between men and women, between racial and ethnic groups and between age groups.

The simple change in design was that new employees were automatically enrolled in the pension plan. That is, enrolment in the plan was made the default choice, which was in force unless the employee chose to "opt out," rather than having to choose to "opt in" as previously had been the case. No other aspects of the plan were changed.

For an economic agent in the standard model of economic behaviour, the nature of the default option should not make any difference in behaviour as long as the cost of switching from participation to nonparticipation (or vice versa) is small. In the situation Madrian and Shea analyze, employees who were hired before automatic enrolment was instituted could opt in to the plan by filling out an enrolment form, authorizing the deduction of a chosen pension contribution from their paycheque and choosing an allocation of the contribution among alternative investment possibilities. Employees who were hired after automatic enrolment could opt out of the plan by filling out a simple form or making a phone call. Thus, there was a clear prediction from the standard theory — the change in the default option should make little difference.

Madrian and Shea show, however, that participation in the plan was greatly increased by the change to automatic enrolment. About 86 percent of the employees hired under automatic enrolment were participating in the plan in July 1999, 15 months after automatic enrolment began. At that point, the new employees had been working for the company for between 3 and 15 months and, as a group, could be compared with those who had been hired in the 15 months preceding the institution of automatic enrolment and who had to have taken some action in order to be enrolled. In July 1998, when the latter group also had been working for the company for between 3 and 15 months, the participation rate was only 37 percent (2001, 1159). This is a massive change — almost 50 percentage points — and dwarfs any likely change that might result from workplace education.

Why is the default so important, not only in this case but in a number of other situations? A number of answers might be proposed. Madrian and Shea (2001, 1176-84) suggest that a number of decision-making biases might be at work. "Status quo bias" is the tendency of decision-makers to stick with the current situation, even when changes clearly would be beneficial. One reason for such procrastination is decision-makers' belief that they will be able to make a better decision "tomorrow," but when "tomorrow" arrives they put off the decision until the next day. Such behaviour can be the result of the time-inconsistent preferences of individuals that are a fundamental feature of behavioural economics. DellaVigna suggests the Madrian and Shea finding is the result not only of procrastination but also of naiveté on the part of decision-makers, in the sense that they continue to believe they will be able to make a change "tomorrow" even though they have consistently failed to make any changes thus far (2009, 323).

The Madrian and Shea result, combined with the underlying theory arising from behavioural economics, suggests a way of designing defined-contribution pension plans that Choi et al. (2001) call the "path of least resistance." Because employees generally accept defaults, plan administrators (or government regulators) can incorporate default options that lead employees to make what the administrators or regulators consider to be prudent choices. Choi et al. expand on the work of Madrian and Shea by studying a number of large US companies that instituted automatic enrolment for their 401(k) pension plans; they find that these companies, too, experienced large increases in plan participation. If, as some might suspect, employees felt coerced into joining the plan, one would expect them to withdraw as time goes on, but, like Madrian and Shea, Choi et al. do not find that participation rates declined over time.

Carroll et al. (2005) analyze the experience of a large US financial services company that, for reasons unrelated to plan design, changed the way it offered participation in its defined-contribution pension plan. Until November 1997, new employees were required to submit a paper form indicating whether or not they wanted to be enrolled in the company's 401(k) pension plan. This procedure forced new employees to make an "active decision" about plan participation — that is, new employees could not begin their job unless they had made a choice. In November 1997, however, the firm changed its enrolment procedures. Each new employee was told to call a toll-free telephone number if they wanted to enrol in the pension plan. If they did not make the call,

they were not in the plan. In effect, the company switched away from an active-decision model to one — labelled the “standard enrolment” model — in which the default rule was that new employees were not in the pension plan until they chose to opt in.

Carroll et al. were given access to data on the pension savings decisions of the firm’s employees over the period from January 1997 to December 2001. Using detailed data on all transactions occurring within the pension plan, the authors analyze the experiences of two cohorts of employees: the “active-decision” cohort, hired between January and July 1997, before the change to the enrolment procedure occurred, and the “standard enrolment” cohort, hired between January and July 1998, after the change in procedure.

The negative effect of the opt-in procedure on plan participation was immediately evident. After three months of employment, 69 percent of the active-decision cohort had enrolled, while only 41 percent of the standard enrolment cohort had done so, a gap of 28 percentage points. The gap narrowed, however, as time went by. At 24 months of tenure, the participation rate of the active-decision cohort was 17 percentage points higher and, at 42 months, only 5 percentage points higher.

Program design as a commitment device

Another main idea in the behavioural economics literature is that people often lack self-control: they might plan to save more for their retirement but fail to do so. Knowing that they lack self-control, some people seek “commitment devices” that lock them into a later course of action in advance.

The Save More Tomorrow™ program, developed by Benartzi and Thaler (2004), applies this idea to retirement savings. The idea behind the program is that employees might be willing to commit themselves to save more by agreeing to assign part of any increase in salary to their pension plan. In essence, the increase in savings becomes a default option. As described in Benartzi and Thaler (2007), Save More Tomorrow™ was first implemented in a mid-sized US manufacturing company that wanted to increase employee contributions to the defined-contribution pension plan. To that end, the company offered financial advice sessions to employees, about 90 percent of whom took advantage of the offer. Most were advised to increase their pension contributions by 5 percentage points, and 25 percent of the employees immediately took this advice. Those who did not immediately increase their contributions were offered a program — Save More Tomorrow™ — that would increase their savings rate by 3 percentage points every time they received a raise in pay. This automatic escalation in contributions would occur at the same time as the increase in pay so that the employees’ pay-cheques would never decrease in size. More than three-quarters of those offered Save More Tomorrow™ agreed to participate. Benartzi and Thaler summarize what happened:

The results were dramatic. Those in the Save More Tomorrow program started with the lowest savings rate, around 3.5 percent. After three-and-a-half years and four pay raises, their savings rate had almost quadrupled to 13.6 percent, considerably higher than the 8.8 percent savings rate for those who accepted the consultant’s initial recommendation to raise savings by 5 percentage points. In addition, most people in the program remained in it through the entire period. (2007, 101)

Conclusion

The two program features discussed here — automatic enrolment and automatic increases in contributions — are only two of several ways that behavioural economics has been applied to retirement planning. They are perhaps the most important, however, because they have affected actual pension plan design. For example, the proportion of US 401(k) plans that featured automatic enrolment increased from 4.6 percent in 1999 to 23.6 percent in 2006 (Soto and Butrica 2009, 5).

If Not Financial Education, Then What?

When noted hockey commentator Pierre McGuire sees a defenceman failing to clear a puck or a forward weak on the forecheck, he often exclaims, “That’s just not good enough!” Clearly, in his view, a professional should recognize what the situation requires and then take the appropriate action.

The current federal government’s main response to the important issues raised by the lack of financial capability among Canadians has been to appoint a task force on Financial Literacy. The task force report is likely to be released early in 2011 and its recommendations are not yet known. If, however, the task force concludes that widespread financial education is the best way forward, that’s just not good enough: stronger measures are both desirable and available to address the lack of retirement planning that seems to follow from the more general lack of financial capability.

I believe that a better way for government to address these problems would be for it to devise a national strategy on *consumer protection* rather than on *financial capability*. Such a strategy should include at least three components designed to help Canadians deal with financial issues in general, and with retirement planning in particular. First, third pillar pension programs need to be redesigned; second, the financial industry needs to be substantively regulated; and, third, Canadians need to be provided with impartial third-party advice on financial products and services.

Redesign third pillar pension programs

The most important retirement planning issue for middle-income Canadian workers is clearly to ensure the adequacy of their future retirement income. The empirical evidence on the use of default options — automatic enrolment and automatic escalation — is that such defaults have very large positive effects on retirement savings, far larger than can reasonably be predicted to follow from increased financial capability or widespread financial education (either in school or in the workplace). These particular design features deserve immediate and widespread adoption, especially in the context of current pension reform discussions and the possible redesign of the third pillar (or expansion of the second pillar) of Canada’s retirement income system.¹⁹ Many recent reform proposals include automatic enrolment features (see, for example, Ambachtsheer 2008; Joint Expert Panel on Pension Standards 2008), and various jurisdictions have either actively considered or adopted them (Marier 2010).

That said, we still have much to learn about how best to apply the lessons of behavioural economics to retirement planning. The researchers who investigated the effect of automatic

enrolment have proposed a number of theories about why such defaults are so important. Madrian and Shea (2001, 1177) attribute their results to "a status quo bias resulting from employee procrastination in making or implementing an optimal savings decision." But they also mention (1179-80) that the results might be due to "individual problems with self-control" or to an "endowment effect."²⁰ The point here is that behavioural economics, despite its rapid progress in recent decades, still has much to explain.

Another issue related to the use of default options to encourage retirement savings is the question of who chooses the default settings. The prescriptive ideas of behavioural economists generally involve using individuals' decision-making biases to improve consumer welfare, but we have much more to learn before we can be confident that these new tools will work in the ways we expect — that is, that the extent of their use will increase, not reduce, welfare. Knowing that consumers are strongly influenced by defaults places enormous responsibility on whoever sets them, whether employers or government bureaucrats. But beyond these caveats, the redesign of third pillar pension programs on the basis of the findings of behavioural economists would go a long way toward improving the likelihood that Canadians have adequate retirement income.

Impose substantive regulation of financial products and services

The creation of a Canadian consumer financial protection agency (CFPA), charged with monitoring the safety of financial products and services and taking action against hazardous ones, would better protect Canadians.²¹ At a minimum, a CFPA would alert investors to high-risk ventures, and its creation would be a major step toward greater regulation of the financial services industry. The rationale for increased regulation is the increased complexity of financial products and services, the rapid rate at which new ones are introduced and the evident inability of consumers to understand them. A recent US paper discusses the need for a CFPA in that country, and begins by arguing as follows:

Markets effectively allocate resources toward their best use if participants have the necessary information at hand and understand their choices. However, when it comes to personal finance, this premise must be questioned. Studies show that many consumers lack the basic financial knowledge they need to make informed decisions. To make matters worse, there is growing concern that some financial firms purposely design and proactively advertise products to mislead consumers about the benefits versus the risks. These market imperfections can lead to a misallocation of resources and are the basis for past and proposed government intervention involving consumer protection. (Stern White Paper 2009, 85)

In my opinion, the need for a CFPA is self-evident. Before new electrical products or new pharmaceutical products are allowed on the market, they must undergo an extensive testing process; few expect all consumers to be "literate" when it comes to exploding toasters or ineffective prescription medicine.²² Can we expect Canadians who are planning for retirement to be "literate" when faced with reverse mortgages, detailed investment prospectuses and complex tax laws? A regulatory agency that attempts to stay abreast of the ever-changing set of financial products and services and to gauge their safety seems only prudent.

Canada's Financial Consumer Agency (FCAC) has few of the powers that a CFPA should have. First, the mandate of the FCAC is limited to federal consumer protection regulations even though much of the most important consumer protection legislation is provincial. Second,

the FCAC does not seem to have the resources or the appetite to take a tough stance on consumer protection issues. The major thrust of its activities has been in promoting financial capability and providing consumer information. According to FCAC annual reports, its Compliance and Industry Relations Branch has imposed only a few small penalties on a handful of financial institutions. Even so, the FCAC is a natural platform on which to create an agency with a much expanded mandate and far stronger regulatory powers. As in the United States, the best form for a strengthened consumer protection agency remains to be determined. Among the functions recommended for a CFPA by the Stern White Paper (2009) are: to require that financial services providers include an easily understood "plain vanilla" option among their products;²³ to insure that any default options are prudently chosen; and to award a CFPA "seal of approval" to financial products deemed worthy. To deal with products that are thought to be harmful, the White Paper recommends that a CFPA have the authority to prohibit their sale, but only after extensive testing and an analysis of the experience of consumers with the allegedly harmful products.

Ensure provision of impartial third-party advice

Much of the discussion in this study has centred on the need to save in order to have enough income to maintain roughly the same standard of living in retirement as before. There is, however, more to retirement than retirement income. Decisions must be made about when to stop working, whether to continue living in the same home after retirement, how to draw down savings and investments, how to handle bequests and how to assess the tax implications of any major decisions. These are complicated matters, well beyond what can be realistically taught as part of a financial education program. Given the logistical difficulty of organizing any sort of serious financial education after the end of compulsory schooling and the limited prospects for its success even if organized, impartial third-party advice would be a valuable way to help Canadians plan for retirement. It might be provided through a government-subsidized service that could offer advice on a range of retirement planning issues, including not only retirement income but also health and life insurance, bequests and long-term care.²⁴ The cost to taxpayers of establishing such an advisory service doubtless would be far less than any widespread and intensive financial education program.

Why not rely on the existing network of professional advisors? First, such advice is not cheap and not all can afford it. Second, professional advice is rarely impartial. Some argue that financial advisers sometimes steer clients to investments that increase their own commissions rather than to those that are in the best interests of the clients.²⁵

Finally, in the context of retirement planning, there is debate among specialists as to what constitutes "best practice." Lawrence Kotlikoff, a well-known and well-respected economist, has engaged in an ongoing debate with professional financial planners, arguing that their advice conflicts with that arising from economic models of how consumption should be smoothed over the life course.²⁶ In this case, however, there is no reason to think that third-party advice would be any better than that offered by the financial industry; there seems to be a true lack of consensus about the proper pattern of retirement savings.

Potential pitfalls of providing consumer protection

We should not underestimate the difficulty or the dangers of strengthening consumer protection in the area of financial products and services. In particular, the following potential road-blocks should be borne in mind:

- regulation can impede the development of new products that might improve the lives of many people;
- if the US experience is any guide, calls for increased regulation would be met by ferocious and effective lobbying by the providers of financial products and services;
- the prescriptive ideas of behavioural economists generally involve using decision-making biases to improve consumer welfare, but much must yet be learned before we can be confident that these new tools will work in the ways we expect; and
- as is usual in Canada, federal-provincial jurisdictional disputes would threaten to derail any serious reform.

Concluding Thoughts: What Role for Financial Education?

Realistically, what role can financial education play in helping Canadians deal with retirement planning issues? In my view, that role is limited; at best, financial education can be a complement to the redesign of retirement savings plans, more substantive regulation of the financial industry and the provision of impartial third-party advice.

A fundamental educational challenge — the limited numeracy of most Canadians — must be overcome before we even consider meaningful financial education.²⁷ Given the poor state of numeracy in Canada, it might be useful to think of various *levels* of financial education — perhaps “basic,” “intermediate” and “advanced.” A basic financial education, likely taking place in elementary or secondary school, could introduce a few simple ideas such as the nature of compound interest, definitions of stocks and bonds and the importance of saving. Given the likelihood that most of what is taught will soon be forgotten, the most important task here is to make people aware of what they do not know. Teaching Canadians that they should seek advice before making a major financial decision — purchasing a home, choosing an insurance policy, planning a retirement — could be the single most important lesson that a basic financial education can provide.

The intermediate level of financial education is what many seem to have in mind when thinking about financial capability. Here, the power of compound interest, the relevance of the annual percentage rate (APR) and the tax advantages of RRSPs and TFSAs might come to be appreciated. Greater knowledge of various financial products — mutual funds, index funds, government bonds — might be conveyed at this level. Various principles of “good” investing — diversification, taking account of taxes and transaction costs, matching assets to desired goals — could be taught. While this kind of knowledge doubtless would be valuable for financial planning in general and for retirement planning in particular, it is hard to see where and when these lessons might be taught.²⁸ The required level of complexity almost certainly would require a mandatory high school course, which is likely to have dubious long-term effects. The difficulty of accomplishing any serious education after formal schooling has ended means that any sort of widespread financial education is logistically challenging after the end of high school.

The advanced level of financial knowledge is the realm of specialists and lies well beyond any extant ideas for comprehensive financial education. Specialists must understand the risks and rewards of various types of investments. They must be fully aware of the tax implications of each investment strategy and they must be able to adapt financial plans to individual circumstances and preferences.

Teachers should be optimists. Who can know what use students will make of algebra, of the history of Confederation, of *Macbeth*, of mitosis or meiosis? Nonetheless, this paper has explored the conceptual opposition to financial education as the primary method of improving the financial capability of Canadians. In sum, the argument is that deep-seated behavioural biases prevent financial education from having any great impact on financial capability or financial outcomes. While future efforts might conceivably be more successful, I believe that financial education should play only a limited and complementary role in helping Canadians plan for retirement, and that better design of pension plans, more substantive consumer protection and impartial third-party advice are far more important.²⁹

Danger lurks, however, when financial education is viewed as a *substitute* for, rather than a *complement* to, these other policies. Willis argues that “[a] society that believes that financial...education will solve consumer financial problems has an all-too-convenient excuse not to engage in the difficult task of finding better...public policies” (2008, 272). This is not to say that developing financial capability is unimportant — innovative efforts to help Canadians understand the need for retirement planning, to avoid the many perils of the financial services market and to take an active part in policy debates should be encouraged. Such efforts are necessary but far from sufficient.

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Notes

- 1 There is abundant US evidence of this, but less Canadian evidence. The 2008 survey sponsored by the Canadian Foundation for Economic Education asked over 40 questions to 1,000 Canadians. While the majority correctly answered the four closed-ended questions about personal finance, most respondents struggled with open-ended questions about general financial knowledge. The complete survey results are available at <http://www.cfee.org/en/>. Statistics Canada's 2009 Canadian Financial Capability Survey, whose data became available in mid-2010 and will be used by the federal Task Force on Financial Literacy, will enable more Canadian evidence to come to light.
- 2 The threshold is obtained by taking the average for the past five years of the CPP/QPP yearly maximum pensionable earnings (YMPE), which is the ceiling of earnings on which contributions are paid; the YMPE stood at \$42,100 in 2006 and at \$47,200 in 2010.
- 3 Tax Free Savings Accounts were introduced in 2009, but these tax-prepaid saving vehicles are not specifically targeted at retirement saving. One feature of the accounts relates to retirement; only 50 percent of benefits drawn from the accounts is included in the GIS means test. Horner (forthcoming) provides a thorough discussion of the interaction between Tax Free Savings Accounts and the GIS.
- 4 The definition of the preretirement income that is being replaced varies. LaRochelle-Côté, Miles, and Picot (2008) use "permanent" family income when workers were between the ages of 54 and 56.
- 5 In an important extension of the idea of financial capability, Reifner and Schelhowe (2010) argue that it includes the ability to adopt a critical perspective on the market for financial products and services and the willingness to take an active part in shaping that market; their Schülerbanking project, implemented in a number of German high schools, attempts to foster that vision of financial capability.
- 6 Many evaluations of financial education programs lack methodological rigour and are thus excluded from this discussion. More comprehensive reviews can be found in Martin (2007), and Edmiston, Gillett-Fisher, and McGrath (2009).
- 7 Individuals are said to be "impatient" if they heavily discount future benefits when making choices between those benefits and current consumption; that is, they have a high discount rate, treating future benefits as if they were worth only a small fraction of their nominal value in the current period. By contrast, a person with a low discount rate is "patient," willing to give up current consumption in return for larger future benefits.
- 8 The effect of financial education on those who accepted the offer by enrolling in the course is called the "effect of the treatment on the treated." This effect might well be positive, but it does not reflect the impact of offering the program to the general population. The effect of the treatment on the treated must be estimated with non-experimental methods.
- 9 The studies reviewed here focus on financial *knowledge* rather than on the broader concept of financial *capability*, mostly because changes in attitudes and skills (which are the determinants of financial *literacy* and *capability*, respectively) are rarely measured.
- 10 The multiple-choice questions on the JumpStart test are general in nature and are not related to any specific course that the students might have taken.
- 11 The three HRS questions are: "If the chance of getting a disease is 10 percent, how many people out of 1,000 would be expected to get the disease?"; "If 5 people all have the winning number in the lottery and the prize is 2 million dollars, how much will each of them get?"; "Let's say you have 200 dollars in a savings account. The account earns 10 percent interest per year. How much would you have in the account at the end of two years?" (2007b, 37). De Meza, Irlenbusch, and Reyniers (2008) question whether these three questions measure financial knowledge or simply general numeracy. While it would be better to have a more detailed and focused set of questions with which to assess financial knowledge, having the three Lusardi and Mitchell questions is far better than having nothing.
- 12 The first question asked respondents to indicate, on a six-point scale, the extent to which they agreed with the statement: "I have spent a great deal of time developing a financial plan." The second question had two parts. Respondents were first asked: "Have you personally gathered together your household's financial information, reviewed it in detail, and formulated a specific financial plan for your household long-term future?" Those who answered "yes" were asked at what age they had first formulated such a plan; using the answer to this second question, the authors develop a measure of how long a financial plan has been in place.
- 13 A small subset of Learn\$ave participants was allowed to save to set up a small business. The discussion here, however, concerns only those saving for adult education.
- 14 The education provided by Learn\$ave was intended to support the efforts by the participants to save for post-secondary education. Organizers of the project, however, did not feel that the actual content matched the needs of the participants; see Leckie et al. (2010).
- 15 The shift from defined-benefit pension plans to defined-contribution pension plans is often cited as a major reason for the need to improve financial capability since defined-contribution plans require individual choices about participation, contribution rates and asset allocation. In the United States, the shift to defined-contribution plans has been quite dramatic, with participation in such plans now exceeding participation in defined-benefit plans. In Canada, the shift has been much slower, and most plans remain defined benefit in nature. In addition, an increasing number of Canadian pension plans are a hybrid of the two types. Note that group RRSPs are not discussed in the literature reviewed here (Baldwin, 2008, 28).
- 16 Measuring wealth is itself a difficult enterprise. The HRS has excellent information related to wealth, and Lusardi is able to construct several measures. The one discussed in the text defines "financial net worth" as "the sum of checking and savings accounts, certificates of deposit and treasury bills, bonds, stocks and other financial assets minus short term debt" (Lusardi 2004, 8). In this statistical analysis, this measure of wealth is divided by a measure of income.
- 17 401(k) plans are the US equivalent of Canadian group RRSPs.
- 18 As both Bernheim and Garrett (2003, 1510) and De Meza, Irlenbusch, and Reyniers (2008, 14) point out, selection bias might still be a problem if employees who are motivated to save seek out firms that have strong financial education programs, although Bernheim and Garrett do not view this possibility as particularly salient. Note, however, that this potential problem is analogous to the interstate differences in financial outcomes that lead Cole and Shastry (2009) to question the results of Bernheim, Garrett, and Maki (2001).
- 19 It is worth noting that many employee pension plans in Canada feature mandatory enrolment; in 2008, 85 percent of those who were members of such plans were in plans with compulsory membership (Baldwin 2009, 11).
- 20 In this context, the lack of self-control is overcome by the commitment device created by automatic enrolment. The endowment effect arises from a sense that participation in the pension plan is a possession that people are reluctant to give up. The endowment effect was famously demonstrated

in an experiment by Kahneman, Knetsch, and Thaler (1990), in which subjects who were given a mug immediately attached a much higher value to what became "their" mug than did a randomly chosen control group who were not given a mug (and thus saw it as just "a mug").

- 21 A new "Consumer Financial Protection Agency" is part of the 2010 US financial reform bill. Elizabeth Warren, the Harvard Law School professor who has long pushed for its creation, has been named to oversee the creation of the new agency; see Porter (2010). Other countries have experience with substantive regulation of financial products and services. Ramsay and Williams (2010) point to the United Kingdom's Financial Services Agency as a functional precursor to the US CFPB and describe its activities since its inception in 2004. Ramsay (2010) compares the regulatory approaches of the United Kingdom and France from 1985 to 2010. Kozuka and Nottage (2007) describe the evolution of Japanese consumer credit regulation, which, in 2006, adopted interest rate ceilings and a rule preventing lenders from making loans that would push borrowers' debt burden above one-third of their income.
- 22 Willis (2008, 213-4) gives the example of the "exploding" mortgage — the "2/28" adjustable rate mortgage (ARM). Such mortgages have low payments for the first two years and then much higher payments after that. As she points out, such mortgages might be appropriate for a law student who will soon graduate into a high-paying job but not for most home buyers. "Nonetheless" she writes, "as a 2005 article in *American Banker* explained, 'mortgages with the potential for severe payment shocks,' which were 'once considered niche products,' are now sold to households that do not expect an income or expense change. In June 2007, federal banking regulators instructed institutions selling these loans to evaluate the repayment ability of consumers with poor credit histories using the higher, future monthly payment, but did not restrict sale of 2/28 ARMs to borrowers whose income or expenses were expected to change after the two years of low monthly payments."
- 23 For example, among the array of mortgage options, a "plain vanilla" fixed-interest, fixed-payment long-term option would have to be included.
- 24 An example of such an advice service is England's Citizen's Advice agency, a government-funded organization that offers advice on a wide variety of subjects.
- 25 Jog, noting that actively managed mutual funds consistently underperform relative to passively managed index funds, writes that one reason investors nonetheless continue to invest in actively managed funds is that "advisors may have financial incentives to steer investors towards actively managed funds rather than passively managed lower fee index funds" (2009, 9). Jog also argues that "to gain access to professional management, the investor incurs costs which are not compensated by excess returns" (11).
- 26 Kotlikoff writes that "[m]any households seek to cure their financial ills by turning to the financial planning industry for advice" and then asserts that typical advice from financial planners leads people away from their goal of maintaining their standard of living over the course of their lives (2006, 2-6).
- 27 In the 2003 International Adult Literacy and Skills Survey, which measured the literacy, numeracy and problem-solving skills of Canadians, an individual categorized as "Level 3" on a five-point scale has numeracy skills that are at the "minimum for persons to understand and use information contained in the increasingly difficult texts and tasks that characterize the emerging knowledge society and information economy." More than half (55 percent) of Canadians had a numeracy score below Level 3 in the survey (Statistics Canada 2003, 26).
- 28 In order to achieve financial capability, something more than knowledge would need to be taught. The requisite attitudes and skills, which might also be thought of as having various "levels," would also need to be taught.
- 29 Noting the widespread support for financial education among firms in the financial industry, Willis suggests that such sup-

port is further evidence against the effectiveness of financial education: "Because good financial decisions by consumers are less lucrative for many industry players, these firms' support is likely predicated, if not on a conclusion that financial [education] programs are ineffective, then on the premise that these programs are less effective than other regulatory policies industry would otherwise face" (2008, 211).

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